IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Applicant(s): Daniel Dedu-Constantin, *et al.*	Examiner: Te Y. Chen
Serial No: 09/894,653	Art Unit: 2171
Filing Date: June 27, 2001	

Title: SYSTEM AND METHOD FACILITATING UNIFIED FRAMEWORK FOR
STRUCTURED/UNSTRUCTURED DATA

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF

Dear Sir:

Applicants submit this brief in connection with an appeal of the above-identified
patent application. A credit card payment form is filed concurrently herewith in
connection with all fees due regarding this appeal brief. In the event any additional fees
may be due and/or are not covered by the credit card, the Commissioner is authorized to
charge such fees to Deposit Account No. 50-1063 [MSFTP250US].

I.   **Real Party in Interest (37 C.F.R. §41.37(c)(1)(i))**

The real party in interest in the present appeal is Microsoft Corporation, the assignee of the present application.

II.   **Related Appeals and Interferences (37 C.F.R. §41.37(c)(1)(ii))**

Appellants, appellants' legal representative, and/or the assignee of the present application are not aware of any appeals or interferences which may be related to, will directly affect, or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III.   **Status of Claims (37 C.F.R. §41.37(c)(1)(iii))**

Claims 1-16 and 27 are pending in the application. The rejection of claims 1-16 and 27 is being appealed.

IV.   **Status of Amendments (37 C.F.R. §41.37(c)(1)(iv))**

No claim amendments have been entered after the Final Office Action.

V.   **Summary of Claimed Subject Matter (37 C.F.R. §41.37(c)(1)(v))**

A.   **Independent Claim 1**

Independent claim 1 relates to a system for accessing data. (*See e.g.*, Application at p. 4, line 16 through p. 5, line 10; and Figs. 1-8 and associated text). The system includes a parser, a data document component, and a data set component. The parser retrieves and parses information associated with a data source. The data document component is adapted to receive at least a portion of the parsed information, and has a hierarchical representation of information associated with the data source. The data set component is adapted to receive at least a portion of the parsed information, and has a relational representation of at least some of the information associated with the data source. The data set component and the data document component are mapped to each other.

B. **Independent Claim 8**

Independent claim 8 relates to a system for facilitating access to data. (*See e.g.*, Application at p. 4, line 16 through p. 5, line 10; and Figs. 1-8 and associated text). The system includes an XML data document component and a data set component. The XML data document component has a hierarchical representation of information associated with a source document. The data set component has a relational representation of at least some of the information associated with the source document. The XML data document component and the data set component are mapped to each other.

C. **Independent Claim 27**

Independent claim 27 relates to a computer readable medium having computer-executable components for accessing data. (*See e.g.*, Application at p. 5, lines 11-17; and Figs. 1-8 and associated text). The computer-executable instructions include instructions for an XML data document component and a data set component. The XML data document component is adapted to hierarchically represent information associated with a source document. The data set component is adapted to relationally represent at least some of the information associated with the source document. The XML data document component and the data set component are mappable to each other.

VI. **Grounds of Rejection to be Reviewed (37 C.F.R. §41.37(c)(1)(vi))**

A. Whether claims 1-16 and 27 are sufficiently enabled under 35 U.S.C. §112, paragraph one; and

B. Whether claims 1-16 and 27 are unpatentable under 35 U.S.C. §102(e) over Vandersluis (U.S. 6,356,920).

VII.   Argument (37 C.F.R. §41.37(c)(1)(vii))

Applicants' invention as recited in the subject claims relate to a unified framework for accessing structured and unstructured data. Information in a source document is parsed into a data document (*e.g.*, unstructured or hierarchical representation) and a data set (*e.g.*, structured or relational representation). (*See e.g.*, p. 4, lines 16-24). In one example, the data document may represent the information as a tree of nodes and the data set may represent the information as a table having rows and columns. (*See e.g.*, Fig. 2). The data document and the data set are mapped to each other such that changes made to the information may be reflected in either representation. (*See e.g.*, p. 4, line 28 through p. 5, line 2). An Application Programming Interface (API) may be utilized to access the information in either the structured or unstructured form. (*See e.g.*, p. 4, lines 18-21).

A.   Rejection of Claims 1-16 and 27 Under 35 U.S.C. §112, first paragraph

Claims 1-16 and 27 stand rejected under 35 U.S.C. §112, first paragraph for failing to comply with the enablement requirement. Specifically, it is contended that the written disclosure fails to teach the mechanism and benefits for mapping a data document component and a data set component to each other. Reversal of this rejection is respectfully requested for at least the following reasons. The written disclosure sufficiently enables one of skill in the art to make and use the systems and computer-readable media as recited in the subject claims without undue experimentation.

Applicants' specification *expressly teaches* methods to map a data document component and a data set component to each other and to synchronize changes to the data. (*See e.g.*, p. 8, line 1 through p. 11, line 17; p. 15, lines 3-20; and Fig. 7). For example, if the data document represents the data as a tree of nodes and the data set represents the data as a table, one way to map the components to each other is to associate the topmost node of the tree in the data document with a table in the data set having corresponding properties. (*See* p. 8, lines 21-23). In this example, nodes in the tree may have three possible states: (1) the node can be associated with a row of data in

the data set component if the local name/namespace match the corresponding properties of the data table; (2) the node may belong to a region defined by the closest parent node associated with a row of data in the data set component; or (3) the node may belong to no region if no parent is associated with a row of data in the data set component. (*See e.g.*, p. 8, lines 19-29). Within a region of the tree, elements may be associated with corresponding columns of a row of data in the data set component. (*See e.g.*, p. 8, lines 30-31). A detailed example utilizing this schema is provided in the written disclosure. (*See* p. 9, line 14 - p. 10, line 21).

The mapping allows for changes made to the data in one component to be reflected in the other component to the extent that the two are mapped to each other. (*See e.g.*, p. 8, lines 3-8). Several examples enabling this feature are provided in the written disclosure. Fig. 2 illustrates a data document data structure and an associated data set data structure. (*See also* p. 10, lines 22-23). A schema has been used to map the two data structures as to customer name and address. (*See* p. 10, lines 30-31). Under this schema, telephone numbers are not included in the data set data structure. Any changes made to information in the data set data structure would trigger changes to the associated data in the data document data structure. Adding new fields to the data set data structure would trigger a new node in the corresponding data document data structure. However, changes to telephone numbers in the data document data structure would not result in any changes to the data set data structure because the nodes for telephone numbers are not mapped to the data set data structure. (*See* p. 11, lines 1-14). One example of an algorithm for effectuating these changes is depicted in Fig. 7. (*See* p. 15, lines 9-20). Thus, *no experimentation at all* (let alone undue experimentation) is necessary for one of skill in the art to map the data document component and the data set component to each other. One of skill in the art could readily accomplish applicants' invention as claimed by simply following the detailed instructions provided in the written disclosure.

The Examiner incorrectly contends that applicants have failed "to disclose the mechanism and benefits for mapping the claimed data document component and the data set component." The "enablement requirement" is set forth in 35 U.S.C. §112 ¶1, which states in pertinent part:

> The specification shall contain a written description of the invention, and, of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same . . . .

Although the term "undue experimentation" does not appear in 35 U.S.C. §112 ¶1, it is "well established that enablement requires that the specification teach those in the art to make and use the invention without undue experimentation." (*In re Wands*, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988).

> [E]nablement is *not precluded by the necessity for some experimentation* such as routine screening. However, experimentation needed to practice the invention must not be undue experimentation. *'The key word is 'undue,' not 'experimentation'* '

(*Id.* at 736-37, 8 U.S.P.Q.2d at 1404 (Fed. Cir. 1988)) (citations omitted) (emphasis added). The factors that the PTO must consider in determining whether undue experimentation is required include:

> (1) the quantity of experimentation necessary;
> (2) the amount of direction or guidance presented;
> (3) the presence or absence of working examples;
> (4) the nature of the invention;
> (5) the state of the prior art;
> (6) the relative skill of those in the art;
> (7) the predictability or unpredictability of the art; and
> (8) the breadth of the claims.

(*Id*). As long as an applicant discloses *any* method of making and using the claimed invention, the enablement requirement is satisfied. (*See CFMT, Inc., v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1338, 68 U.S.P.Q.2d 1940 (Fed. Cir. 2003)). Moreover, the PTO has the burden of showing that there is some reason to doubt the objective truth that the passages cited to in the written disclosure would not enable one of skill in the art to make and use the invention as recited in the claims. (*See In re Marzocchi*, 439 F.2d 220, 223,

169 U.S.P.Q. 367, 369 (CCPA 1971)). As the predecessor court to the Federal Circuit has held:

> [a]s a matter of Patent Office practice, then, a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented *must be taken as in compliance with the enabling requirement* of the first paragraph of § 112 *unless there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.*

(*Id.*, 439 F.2d at 223, 169 U.S.P.Q. at 369) (emphasis added).

The Examiner states that the specification fails to specify how the invention is made, contending:

> "...fail to specify how applicant's invention is made (*i.e.*, How are the "changes" "reflected"? No detail is provided. No algorithm is provided). Thus, one of ordinary skill (*sic*)at the time the invention was made would not be able to make (*sic*) applicant's invention without undue (*sic*) experimentation."

(Final Office Action at pp. 5-6). As explained above, the written disclosure provides detailed instructions and examples expressly illustrating how to map the data document component and the data set component to each other and how to synchronize changes in the data. The Examiner has not expressed any doubts as to the objective truth of the passages of the patent application cited to for enabling support. Rather, a bare assertion is made that undue experimentation would be required to practice the claimed invention without providing any reasoning as to why the experimentation would be undue. Indeed, given the detailed teachings of the specification, *no undue experimentation* is required to map the data document component and the data set component to each other. The detailed directions *expressly provided* by applicants' written disclosure clearly enable one of skilled in the art to practice the claimed invention.

The Examiner also states that the applicants have failed to satisfy the requirements of section 112, first paragraph in part under the contention that applicants have failed to explain the "benefits for mapping the claimed data document component and the data set component." (Office Action at p. 3 and Final Office Action at p. 2). While the benefits of the invention are readily apparent, there is no requirement under 35 U.S.C. §112 ¶1 to explain the benefits of the invention. To be patentable, an invention must be useful. However, the Examiner has not contended that applicants' claimed invention lacks utility and has not rejected the subject claims under 35 U.S.C. §101.

In view of the foregoing comments, it is readily apparent that the subject patent application teaches one of skill in the art how to make and use the invention as recited in claims 1-16 and 27. Accordingly, this rejection should be withdrawn.

B.   Rejection of Claims 1-16 and 27 Under 35 U.S.C. §102(e)

Claims 1-16 and 27 stand rejected under 35 U.S.C. §102(e) as being anticipated by Vandersluis. Withdrawal of this rejection is respectfully requested for at least the following reasons. The cited reference does not disclose or suggest each and every limitation of the subject claims.

i.   Claims 1-16

Regarding claims 1-16, reversal of this rejection is respectfully requested for at least the following reasons. Vandersluis does not disclose *a data document component having a hierarchical representation of information and a data set component having a relational representation of information being mapped to each other* as recited in the subject claims.

> A single prior art reference anticipates a patent claim if *"each and every* limitation set forth in the patent claim" is disclosed either expressly or inherently. (*Trintec Industries, Inc. v. Top-U.S.A. Corp.,* 295 F.3d 1292, 1295, 63 U.S.P.Q.2d 1597, 1599 (Fed. Cir. 2002) (citing to *Verdegaal Bros., Inc. v. Union Oil Co.,* 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1052-53 (Fed. Cir. 1987))) (emphasis added). Moreover, "[t]he *identical* invention must be shown in as *complete* detail as is contained in the patent claim."

(*Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989) (citing *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 756 F.2d 1556, 1560, 225 U.S.P.Q. 253, 257 (Fed. Cir. 1985); and *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983))) (emphasis added).

Applicants' claimed invention provides a unified framework for accessing data that is stored in different representations (*i.e.*, hierarchical and relational). As described in the application, data in a source document is parsed into a data document component (*e.g.*, hierarchical or unstructured representation) and a data set component (*e.g.*, relational or structured representation). For example, the data document component can represent the data in a hierarchical XML data tree and the data set component can represent the data in a relational data structure, such as a table. *The two components are mapped to each other to facilitate synchronizing any changes made to the data.*

The Examiner has failed to address an *express* claim limitation, and in effect, has read such limitation out of the claims. In particular, the Examiner has ignored that independent claims 1 and 8 recite that the data document component and the data set component *are mapped to each other.* Vandersluis does not teach components, which have different representations of information (*i.e.*, *hierarchical* and *relational*), being *mapped to each other* as in applicants' claimed invention.

Vandersluis does not teach *mapping* a data document component (which represents information hierarchically) and a data set component (which represents information *relationally*), *to each other* and the Examiner has not contended otherwise. (*See* Office Action at pp. 3-5 and Final Office Action at pp. 3-6). All the Examiner has done is point to portions of Vandersluis that the Examiner contends disclose a parser, a data document component and a data set component. (*See* Office Action at pp. 4-5 and Final Office Action at pp. 3-4). However, claims 1 and 8 expressly recite that the data document component and the data set component *be mapped to each other* – no weight or consideration appears to have been given to this limitation. There is no teaching or suggestion in Vandersluis for *mapping a data document component having a hierarchical representation of data and a data set component having a relational representation of data to each other* as in applicants' claimed invention.

These arguments were presented in both the Reply to the Office Action and the Reply to the Final Office Action. (*See* Reply to Office Action at pp. 10-13 and Reply to Final Office Action at pp. 12-15). The Examiner's response was that "the features upon which the applicant relies (*i.e.*, a system and method facilitating a unified framework for structure/unstructured data) are not recited in the rejected claim(s)." (Final Office Action at p. 6). In the Advisory Action(s), the Examiner states that "limitations from the specification are not read into the claims (*e.g.*, associates the two data components through utilization of a schema that is either associated with the source document or can be inferred from the source)." (Advisory Action dated Aug. 20, 2004 at p. 3 and Advisory Action dated Aug.30, 2004 at p. 3). However, these statements are an inaccurate characterization of applicants' presented arguments. The assertion(s) made previously and again in this appeal is that applicants' claimed invention is distinguishable from Vandersluis at least because the cited reference does not disclose *each* and *every* *express* limitation recited in the subject claims.

To support the lack of novelty rejection, the Examiner cites to *In re Geuns*, 988 F.2d 1181, 26 U.S.P.Q.2d 1057 (Fed. Cir. 1993) (which holds that it is improper to import limitations from the specification into the claims). However, the facts of *In re Geuns* are nothing at all like those of the present case. In stark contrast to the claim(s) in *In re Geuns*, applicants' claims (at issue in this appeal) expressly recite the limitation *that the data document component and the data set component **are mapped to each other**.* Thus, the Board is not being asked to import a limitation from the specification into the claims. Rather, what is being requested is that this rejection be withdrawn because the prior art does not disclose each and every express claim limitation and therefore, does not anticipate the subject claims.

It is clear that applicants have not attempted to import a limitation into the claims from the specification. However, the Examiner has attempted to read an express limitation out of the claims. (*See Texas Instruments Inc., v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1171, 26 U.S.P.Q.2d 1018, 1023 (Fed. Cir. 1993) (holding that it is improper claim construction to read an express limitation out of the claims because this "would render the disputed claim language mere surplusage")).

Furthermore, the claims recite *a data document component having a hierarchical representation of information and **a data set component having a relational representation of at least some of the information.*** However, the feature of Vandersluis referenced by the Examiner as being a data set component (the Data Definition File of Vandersluis) is a *hierarchical* document – in accordance with applicants' claimed invention the data set component has a ***relational representation*** of information (as compared to hierarchical as in the cited reference). More particularly, Vandersluis teaches a Hierarchical Data Server (HDS) and Document Definition Authoring System that provides for constructing and editing a Document Definition File (DDF). (*See* col. 5, lines 45-51). The DDF contains *hierarchically* related elements, each of which is capable of generating data. (*See* col. 5, lines 48-51 and col. 7, lines 14-21). A client requests a DDF from the Hierarchical Data Server - the Hierarchical Data Server then processes all of the elements in the DDF and returns a Data File to the client. (*See* col. 5, lines 53-55; col. 7, 3-10; and col. 8, lines 43-52). A DDF is created using the Document Definition Authoring System. (*See* col. 10, line 30 through col. 11, line 40 and Figs. 4(a)-(b)). In the preferred embodiment, Vandersluis teaches that both the DDF and the Data File returned to the client *are hierarchical XML documents.* (*See* col. 11, lines 40-55). Thus, the DDFs taught by Vandersluis are *hierarchical* documents which are not the same as a data set component having a ***relational representation*** of information as in applicants' claimed invention.

In view of at least the foregoing comments, it is readily apparent that Vandersluis does not anticipate independent claims 1 and 8 (and claims 2-7 and 9-16 which respectively depend there from), and this rejection should be withdrawn.

ii.   Claim 27

Regarding claim 27, Vandersluis does not disclose or suggest an XML data document component adapted to hierarchically represent information associated with a source document *and* a data set component adapted to ***relationally represent*** at least some of the information associated with the source document being ***mappable to each other*** as recited in the subject claim. As noted *supra*, Vandersluis is silent regarding mapping components to each other. The Document Defintion Files (DDF) of

Vandersluis represent information *hierarchically*, and are therefore does not teach a data set component adapted to ***relationally represent*** information. In view of at least the foregoing, it is readily apparent that Vandersluis does not anticipate claim 27, and this rejection should be withdrawn.

C.   Conclusion

For at least the above reasons, the claims currently under consideration are believed to be patentable over the cited references. Accordingly, it is respectfully requested that the rejections of claims 1-16 and 27 be reversed.

If any additional fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Respectfully submitted,
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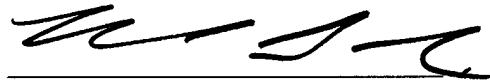
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VIII.   Claims Appendix (37 C.F.R. §41.37(c)(1)(viii))

1.   A system for accessing data, comprising:

a parser for retrieving and parsing information associated with a data source;

a data document component adapted to receive at least a portion of the parsed information, the data document component having a hierarchical representation of information associated with the data source; and

a data set component, adapted to receive at least a portion of the parsed information, the data set component having a relational representation of at least some of the information associated with the data source, the data set component and the data document component being mapped to each other.

2.   The system of claim 1, the data source being at least one of an XML document and a relational database document.

3.   The system of claim 1, the data set component having a structural inference component for inferring a relational structure of the data source.

4.   The system of claim 1, the data set component having a schema component receiving a schema describing a relational structure of the data source.

5.   The system of claim 1, further comprising a managed provider for accessing a relational database document, the managed provider providing information associated with the relational database document to at least one of the data set component and the data document component.

6.   The system of claim 1, further comprising a service facilitating access to the hierarchical representation of information stored in the data document component.

7.   The system of claim 1, further comprising a designer facilitating access to the relational representation of information stored in the data set component.

8.   A system facilitating access to data, comprising:

an XML data document component having a hierarchical representation of information associated with a source document; and

a data set component having a relational representation of at least some of the information associated with the source document, the XML data document component and the data set component being mapped to each other.

9.   The system of claim 8, the source document being an XML document.

10.   The system of claim 9, further comprising an XML parser for retrieving information from the XML document, the parser sending information associated with the XML document to the XML data document component and the data set component.

11.   The system of claim 10, the data set further comprising a structural inference component for inferring a relational structure of the XML document.

12.   The system of claim 10, the data set further comprising a schema component receiving a schema describing a relational structure of the XML document.

13.   The system of claim 8, the source document being a relational database document.

14.   The system of claim 13, further comprising a managed provider for accessing the relational database document, the managed provider providing information associated with the relational database document to at least one of the data set component and the XML data document component.

15.   The system of claim 8, further comprising a service facilitating access to the hierarchical representation of information stored in the XML data document component.

16.   The system of claim 8, further comprising a designer facilitating access to the relational representation of information stored in the data set component.

17-26. Withdrawn

27.   A computer readable medium having computer executable components for accessing data, comprising:

an XML data document component adapted to hierarchically represent information associated with a source document; and

a data set component adapted to relationally represent at least some of the information associated with the source document, the XML data document component and the data set component being mappable to each other.

28-29. Withdrawn

IX.   Evidence Appendix (37 C.F.R. §41.37(c)(1)(ix))

None.

X.   Related Proceedings Appendix (37 C.F.R. §41.37(c)(1)(x))

None.